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CLAIMS

What is claimed is:

1.   In a communication medium including a first set of n communication channels and a second set of m communication channels, a method for selecting sensor channels in said first set for quantifying crosstalk from said second set, the method comprising:

        a)   operating said first set of communication channels in a receive-only mode;

        b)   choosing a subset S_1 of size m of said n communication channels;

        c)   estimating the expansion coefficients of said n communication channels as a predefined function of said subset S_1 and signals received by said n communication channels;

        d)   choosing a candidate subset S_2 of size m of said n communication channels where the determinant of a matrix of said expansion coefficients corresponding to said subset S_2 is greater than the determinant of a matrix of said expansion coefficients corresponding to any other subset of size m of said n communication channels divided by a predefined bound D;

        e)   calculating a threshold α;

        f)   choosing a final subset S_2 that is an α-amplifier of said threshold α; and

        g)   employing said communications channels in said final subset S_2 as sensor channels for quantifying crosstalk from said second set of communication channels.

2.   A method according to claim 1 wherein said calculating a threshold step comprises calculating α as a predefined function of said bound D and a predefined number I of replacement iterations.

3.   A method according to claim 2 wherein said choosing a final subset step comprises replacing any of said channels in said candidate subset S_2 during at most said I replacement iterations.